particularly in the bony portion of the canal, while the drumhead gives evidence of the implication of the middle ear. In the matter of treatment of the circumscribed inflammation of the canal the author recommends early and free incision and dressing with plain sterile gauze in perference to iodoform gauze because of the effect of the latter upon the usually accompanying eczema.

PATHOLOGY AND BACTERIOLOGY

UNDER THE CHARGE OF

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Leukocytic Bacteriolysins and Their Relation to the Alexin.—Levaditi (*Bull. de l'Institut Pasteur*, 1914, xii, p. 481) has given a very comprehensive review of the work upon this subject. For many years active discussion has surrounded the problem of the origin of the bacteriolytic substances of the serum. Buchner contended that the leukocytes liberate them by active secretion, while Metchnikoff believed that the active substances were only liberated on the death of the leukocytes. Each of these views has had its followers. The problem has not alone an academic interest but, because of the newer suggestions for the therapeutic application of some of the principles involved a definite knowledge of the nature of the leukocytic enzymes is desirable. Levaditi has discussed the subject from various view-points. He compares the experimental results upon the bactericidal action of leukocytes *in vitro* and *in vivo*. Baumgarten claimed that the phagocytosis in the absence of a specific serum was an incomplete process in that the bacteria were not actually destroyed within the leukocytes. On the other hand, the majority of authors agree with Hektoen that the *in vitro* experiments upon phagocytosis demonstrate a definite destructive activity and that the experiments closely simulate the reactions of the body. Some *in vivo* experiments also establish a destructive process by the leukocytes of many forms of bacteria. Moreover, a definite relation has been established between the protective power of an individual and the height of a leukocytosis. From these observations the Metchnikoff school wish to contend that our immunity in general has a direct bearing to the leukocytic response. Many studies have been undertaken to determine the anti-microbic substances in leukocytes. For the most part, the substance is of a common kind, acting against a variety of bacteria. It has some similarities with alexin, but is more heat resisting than that body. The active substance of leukocytes is not of a lipoid nature, but is soluble in water and has the character of a ferment. It appears from a number of experiments that the active substance can be preserved for considerable periods of time when kept in the dry state. Ordinary fresh leukocytes rapidly dried show bactericidal powers for several weeks. An interesting observation is recorded that the leukocytes of immunized animals are considerably more active against the specific bacteria than normal leukocytes. The work is very suggestive and stimulates interest to follow the therapeutic application of leukocytic extracts as was suggested in Opie's work.

The Cellular Reactions Induced by Local Deposits of Cholesterin.—Recently much interest has been displayed in the significance of cholesterin in health and disease. It is a not uncommon finding during the routine examination of human tissues under pathological conditions to observe some form of cholesterin. STEWART (*Jour. Path. and Bact.*, 1915, xix, 305) has noted that cholesterin may appear in different physical forms, as well as give rise to different reactions in human tissues. Thus, both under normal and pathological conditions, cholesterin often appears in a peculiar type of cell, the foam cell, which deals with the cholesterin in combination with lipoids. True crystals of cholesterin are not to be observed unless the fatty compounds have been disturbed by the preservative. On the other hand, cholesterin also appears in tissues in the pure state as rhomboid crystals, bunches of fine needles or prisms. Such free cholesterin is not readily handled either by the cells or the tissue fluids. The crystals stimulate the production of foreign body cells and their presence in sections is distinguished by the clefts seen in the tissues. Frequently large cells surround these crystals and render them physically inert. At other times the cholesterin forms a rosette-like deposit. Many spicules radiate from a center producing curious masses. Here again giant cells commonly surround the deposit. Such deposits are found in the breast.

Symmetrical Cortical Necrosis of the Kidney in Pregnancy.—Since the first report of Rose Bradford and Lawrence 1898 of symmetrical cortical necrosis of the kidney, eleven more cases have been reported by the English and American authors. The condition is such a serious one that each new case assists in bringing to light new facts concerning the disease. GLYNN and BRIGGS (*Jour. Path. and Bact.*, 1915, xix, p. 321) record another in a primipara of 29 years. In the eighth month of pregnancy she aborted. There was almost complete suppression of urine for the next week and she died in coma. There were, however, no convulsions. At autopsy the kidneys were found to have the characteristic appearance described in this disease. The outer portion of the cortex was found to be of a lemon yellow color while the medulla was somewhat congested and a hemorrhagic zone demarcated the necrotic layer from the underlying tissues. The main vessels of the kidney were uninvolved but in the zone of demarcation a widespread thrombosis of blood plates was observed. The nature of this thrombosis has been the point mainly in question by the various authors. Some have described them as of fibrin, others of red blood cells, others of debris, while now a new suggestion of platelets is offered. They believe that the condition may begin with injury to the vascular endothelium followed by thrombosis of the interlobular arterioles. It is not clear why this particular group of vessels should be picked out.

Teratoma of Anterior Mediastinum.—The unusual finding of a mediastinal teratoma is reported by PRYM (*Frank. Zeit. f. Path.*, 1914, xv, 181). The tumor mass, the size of a flattened orange, was removed at operation from the anterior mediastinum of a girl of eleven years. The mass was attached by a pedicle to the inner wall of a cyst which was clothed by epithelium. Incomplete removal of the cyst wall led to a recurrence of the cyst. The tumor mass was amorphous, covered by epithelium and long hair, and having several teeth on one surface. Bony structures were contained within it. There are seven other reported mediastinal teratomata in which teeth were found, while in only two did the bony structures resemble the mandible. On account of the similarity between the mediastinal tumors and those of the ovary the author believes that the blastomere theory of Marchand is best adapted. By this it is suggested that in the early history of the embryo polypotential blastomeres become misplaced.

Myocotic Aneurysms of the Aorta with Perforation into the Œsophagus.—New cases are constantly being added to the relatively long list of mycotic aneurysms and with the new reports attempts are being made to classify the nature of the process and the manner in which the serious outcome is brought about. There have been at least five suggestions as to the mode of localization of the infection upon the aortic wall: (1) extension of an inflammatory process from an external neighboring infectious process; (2) a metastatic deposition upon the aortic intima from valvular endocarditis; (3) a lymphatic distribution into the wall of the aorta; (4) infection of the media by an invasion through the vasa vasorum; (5) infection of the surface of the intima from a distant focus. EDENHUZIEN (*Frank. Zeit. fur Path.* 1914, vol. 16, H. 1) reported two new cases of this disease, in the first of which he suggests another mode of infection. The case was one of an acute septic process in diabetes which led to the localization of the infection in the arteriosclerotic plaques of the aorta. It is suggested that the invasion took place upon the intimal surface and then progressed deeply into the wall of the aorta. Perforation without the development of a sacular aneurysm took place into the œsophagus. In the second case a tuberculous process extended from the outer portion of the aorta until the weakened wall ruptured into an erosion of the œsophagus. The tuberculous process progressed relatively rapidly in its destructive lesion of the aorta and the neighboring tissues.

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